



The SOLEC *Indicator*

SOLEC '96 - YEAR OF THE NEARSHORE - Day 1

Dear SOLEC Delegates:

Welcome to Day 2 of SOLEC '96. This morning, we will look at nearshore issues on a lake-by-lake basis. Wetlands, nearshore waters, land by the lakes - and the impacts on these precious areas from chemical, biological and physical stressors - will be examined. This afternoon will feature what we're sure will be lively, interactive sessions on cross-cutting issues affecting the Great Lakes basin.

As an indicator of our progress during Day 1 of SOLEC, we bring you our newsletter - a SOLEC tradition. It provides the highlights of yesterday's workshop sessions, and begins the "building" process, which Harvey Shear referred to yesterday in his opening remarks.

We extend our sincere thanks to our hosts for the Reception last night, to Consuls Johnson and Wismer for contributing to SOLEC's success, and to our eloquent luncheon speaker, Mr. David Buzzelli. Mr. Buzzelli shares the vision of SOLEC '96, in that he views problems from an ecosystem perspective and has experienced the successes of partnership and collaboration. We would also like to thank our Walpole Island friends whose peaceful demonstration reminded us again of the importance of ecosystem health.

On behalf of all SOLEC delegates, we congratulate our SOLEC success story recipients for their dedication to the restoration of the nearshore Great Lakes.

We are looking forward to the results of today's deliberations.

Sincerely,

Paul Horvatin Harvey Shear
Co-chair Co-chair

The "Highlights" which follow were put together by SOLEC's session facilitators. These people met together last night, shared common findings and key themes and developed

highlights for each session. It should be noted that where we identify participants as "agreeing", this refers to activity in individual breakout sessions, as opposed to the overall Conference itself.

COASTAL WETLANDS - HIGHLIGHTS

Water Levels and Wetlands

Participants agreed that natural alterations in water levels are vital to the health of wetlands.

Mitigating Human Impacts

The effects of some physical alterations, such as armouring, diking, etc. can be mitigated by engineering solutions.

The impact of land use can be mitigated by:

- planning and zoning;
- education/awareness;
- better defined economic benefits;
- giving people better access;
- using volunteer monitoring programs;
- using stewardship programs;
- recognizing volunteers/private land owners;
- strengthening and enforcing laws better;
- providing incentives to save wetlands;
- managing wetlands with respect to surrounding ecosystem; and,
- looking at cumulative effects of human activity.

Indicators

It will be hard to identify cost-effective indicators of quality (it is easier, but incomplete, to do indicators of quantity). We need:

- a common definition of "coastal wetlands";
- common indicators;
- early warning indicators; and,
- community-based indicators.

There is a big gap between current planning and action (to protect wetlands and/or enforce regulations). We need to close the gap.

Nearshore Natterings...

Relating to urban sprawl - *"Residential nibbling"*

Relating to public access to wetlands - *"people appreciate the natural aspect of water, not just boating and fishing".*

INFORMATION AND INFORMATION MANAGEMENT - HIGHLIGHTS

New Data Bases

Some key additions to the list of databases were made. Any other people aware of a database not listed should fill out the sample questionnaire in the working paper and send it to the authors.

Major Data Gaps

It is difficult to determine what the gaps are without an assessment of data needs. This needs to be related to the management goals and the indicators. This assessment should be an iterative process involving decision-makers and researchers.

Other gaps were identified:

- wetlands, especially on the Canadian side;
- streams and groundwater;
- supporting data (climate and hydrology data); and,
- data chronology (ongoing monitoring needed).

Need for Metadata

There is a need for metadata (which is data about the data - i.e. the researcher, date, accuracy, method), and mechanisms for disseminating it.

There is a need for tools to integrate data/and a need for mechanisms to share data.

There are data gaps and the trend is to discontinue data collection while the real need is to continue and expand data collection.

A top priority is to establish a consortium/process for dialogue and cooperation on major data issues, including: data needs assessment; development of common indicators; and a metadata standardization process.

NEARSHORE WATERS - HIGHLIGHTS

Developing Better Measures of Ecosystem Health

The attributes of good indicators include:

- scientific basis;
- meaningful;
- ease of communication/understanding;
- reflect public values, including economics;

- "transparent" development of indicators; and,
- causal relationships must be clear.

Types/scales of indicators

- some are more scientific, others less scientific but appeal more to the public;
- scales, include lakewide, site-specific;
- early warning capability is needed; and
- lack of agreed-upon indicators should not interfere with taking action.

(participants questioned the validity of SOLEC indicators - the scale may be too broad to be meaningful).

Linking Health of Nearshore Waters with Stressors

Inadequately addressed stressors in Working Paper include:

- livestock management;
- forestry;
- mineral extraction;
- airborne sources;
- weather, natural stressors; and,
- extraction of logs from lake bottom.

Stressors act cumulatively and interact; they cannot necessarily be separated.

Sustainable Economic Health and Nearshore Health

Acknowledge and accept that there are different definitions of sustainable economic development.

We know a lot about what is sustainable (e.g. low flow toilets, ploughing practices), and we have the technologies (sewage treatment, etc.). We need to put our knowledge and the actions available into practice.

To put it into practice:

- economic incentives are needed;
- human behaviour changes are needed; and,
- we should not be afraid to make judgement calls.
- Sewage Treatment Plants
- We need to optimize how dollars are spent on sewage treatment e.g. operator training, higher standards, best technologies (ultra violet);
- Non-point sources are also part of the problem; e.g. combined sewer overflows, stormwater; and
- Some key steps address non-point; look at water recycling.

Key Actions

We need to:

- define an overall vision for the Great Lakes ecosystem.
- define the goal towards which we are working ("pristine" condition may not be reasonable).
- evaluate/harmonize agencies' structures.
- assess what "ecosystem" would emerge if all jurisdictions fulfilled their commitments (what future is already on the books?).

LAND BY THE LAKES - HIGHLIGHTS

Assessment of Working Paper

- Positive about work. Good approach. Needs some refinement.
- We need to address humans as part of the system.
- The assessment methodology should be transparent.

Adequacy of Information in Working Paper

- Message clear: areas are degraded.
- Data good: there is always more. Steps and actions are needed.
- Need to address sand transport and deposition.
- Need to check Illinois assessment of Lake Michigan to ensure a complete report (this is a missing piece).
- Need to include air deposition component.
- Need to address shoreline erosion rate.

Indicators

- Do the sets of indicators reflect "living systems theory"?

Assessment of Nearshore

- Need to clarify/recognize difference between human and natural stresses (e.g. water level flux).
- Need to identify and address "killer stressors"/or threshold stress levels beyond which the system/resource is lost.

Moving Forward

How do we translate the paper into action? We can:

- plan at the local/regional level;
- work with community leaders/groups;
- integrate existing working paper into LAMPs and other existing programs;
- develop directory of case studies/stewardship examples;
- inventory and analyze all data from "biodiversity investment areas";
- celebrate Great Lakes/Great Places Heritage Security Areas;
- use existing communications tools; and,
- foster partnerships.

INTEGRATION PAPER - HIGHLIGHTS

Management Challenge #1: *Bringing together nearshore information in accessible GIS based formats.* People agreed, with some caution mainly relating to how this challenge will be met.

Next Steps are:

- identify demand/incentives to do this;
- identify who is responsible and what resources are needed;
- agree on vision, management needs for which information is needed;
- identify information needs;
- develop standards for information collection;
- collect and categorize data; and
- assess quality and usefulness before entering into the GIS.

Management Challenge #2: *Developing easily understood indicators to support understanding of the state of the system and obtaining widespread agreement on what needs to be done.* People agreed and identified four next steps which are iterative and linked:

- establish responsibility, and institutional arrangements to do this;
- identify desired "end states" and reasonable measures for these;
- identify "levels"/categories of indicators needed; and
- develop indicators through multi-stakeholder processes.

Management Challenge #3: *Integrating the concepts of biodiversity and habitat into existing programs traditionally devoted to pollution control or natural resources management for harvest.* People agreed and identified four next steps:

- define what we mean by biodiversity, habitat;
- set goals and targets for these concepts;
- inventory programs which address habitat and biodiversity - "look broadly" use these programs as examples to help programs which don't address these now;
- identify barriers to integrating these concepts;
- define what needs to be done for biodiversity and modify existing programs.

Management Challenge #4: *Integrating Lakewide Management Plans (LAMPs), Fisheries Management Plans and Remedial Action Plans (RAPs) for Areas of Concern so that they become fully viable management mechanisms, useful for decision makers throughout the Great Lakes basin ecosystem in taking action and assessing results.* People agreed and identified three next steps:

- inventory **all** processes under way and categorize activities;
- improve communications and strive to integrate processes where appropriate by:
 - seeking common ground: goals, objectives, actions
 - avoiding conflicts
 - sharing information
 - initiate community outreach - SOLEC '98!

Other Key Management Challenges:

- integrating programs/policies into state of lakes or basinwide assessments (focus for SOLEC '98?)
- dealing with land use issues
- involving Tribes/First Nations in SOLEC process

- integrating information about socio-economic values, trends and their impacts in programs at all levels.

LAND USE - HIGHLIGHTS

Promoting Brownfield Redevelopment

To shift economic attractiveness from greenfields to brownfields:

- provide incentives for urban development in brownfields;
- apply full costs of greenfield development;
- balance regional tax structure;
- sell development rights to protect greenfields; and,
- catalogue all the benefits.

Address the liability issue by:

- eliminating or reducing liability disincentives (e.g. perpetuity clause, deed restrictions, cap liability, environmental/conservation easements) without lowering environmental standards.

Standards should be:

- uniform and enforceable; and,
- flexible to meet goals.

Create attractive practical areas by:

- addressing social context;
- providing good transportation, services, and housing; and,
- planning future after-use plans beyond the clean-up.

Communications should focus on:

- education;
- information exchange; and,
- sharing success stories.

Use of cluster zoning will save some of the greenfields around the development.

Integrating Land Use Planning and Water Quality

1. Tool Kit

Integrate water quality management into land use planning/development through:

- riparian corridor ordinances;
- water-quality standards for urban stream protection;
- limits on road development;
- conservation oriented;

- sewer service planning;
- drain permitting;
- water permitting; and,
- protecting these existing tools from roll-backs.

2. Watershed planning:

- basin-wide networking and education;
- interagency information sharing;
- full-costs of development to be analyzed and communicated; and
- develop information on aquifer recharge and discharge.

3. Design and redesign/retrofit of development:

- based on natural systems;
- disconnect stormwater from sewage system;
- limit amount of impervious surface;
- have minimum open space and setback standards; and,
- integrate water quality objectives with landowners needs.

4. Information:

- collect water quality data with geographic reference (GIS) so it can be integrated into land use planning processes.

5. RAPs:

\$ integrate with local land use planning; and

\$ integrate basin-wide through LAMPs.

Full-cost Development Charges

1. Raise the issue to sensitize voters, politicians and developers.
2. Do land use planning first, using natural systems if possible.
3. Think about measurement:

- \$ identify all the costs of development;
- \$ reflect long term, cumulative effects basin-wide; and,
- \$ some costs cannot be measured quantitatively.

4. Remove subsidies, grants, tax breaks considering equity issues.

Nearshore Natterings

"Our adversarial approach leads us to overlook the science."

SOLEC Factors of Success

- the organization needs to set priorities based on scientific findings;
- set priorities based on ecosystem perspectives;
- make sure when we're setting public policy that we take risk and cost benefit into the analysis
- focus on multi-stakeholder process.

- D.B.